

PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference F-242-PCT	FOR FURTHER ACTION See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)	
International application No. PCT/KR2003/002609	International filing date (day/month/year) 29 NOVEMBER 2003 (29.11.2003)	Priority date (day/month/year) 05 DECEMBER 2002 (05.12.2002)
International Patent Classification (IPC) or national classification and IPC IPC7 C12P 33/00, A23L 2/38, C12N 1/20		
Applicant HONGRIM TRADING CO., LTD. et al		

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.

2. This REPORT consists of a total of 3 sheets, including this cover sheet.



☒ This report is also accompanied by ANNEXES, i.e., sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

These annexes consist of a total of 2 sheets.

3. This report contains indications relating to the following items:

- I ☒ Basis of the report
- II ☐ Priority
- III ☐ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- IV ☐ Lack of unity of invention
- V ☒ Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- VI ☐ Certain documents cited
- VII ☐ Certain defects in the international application
- VIII ☐ Certain observations on the international application



Date of submission of the demand 05 JULY 2004 (05.07.2004)	Date of completion of this report 26 APRIL 2005 (26.04.2005)
Name and mailing address of the IPEA/KR  Korean Intellectual Property Office 920 Dunsan-dong, Seo-gu, Daejeon 302-701. Republic of Korea Facsimile No. 82-42-472-7140	Authorized officer WON, Jong Hyeok Telephone No. 82-42-481-5592 

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.

PCT/KR2003/002609

I. Basis of the report

1. With regard to the elements of the international application:*

- ☐ the international application as originally filed
- ☒ the description:
pages 1-27, as originally filed
pages _____, filed with the demand
pages _____, filed with the letter of _____
- ☒ the claims:
pages _____, as originally filed
pages _____, as amended (together with any statement) under Article 19
pages _____, filed with the demand
pages 31-32, filed with the letter of 27/01/2005
- ☐ the drawings:
pages _____, as originally filed
pages _____, filed with the demand
pages _____, filed with the letter of _____
- ☐ the sequence listing part of the description:
pages _____, as originally filed
pages _____, filed with the demand
pages _____, filed with the letter of _____

2. With regard to the language, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language English which is

- ☐ the language of a translation furnished for the purposes of international search (under Rule 23.1(b)).
- ☒ the language of publication of the international application (under Rule 48.3(b)).
- ☐ the language of the translation furnished for the purposes of international preliminary examination (under Rules 55.2 and/or 55.3).

3. With regard to any nucleotide and/or amino acid sequence disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☐ contained in the international application in written form.
- ☐ filed together with the international application in computer readable form.
- ☐ furnished subsequently to this Authority in written form.
- ☐ furnished subsequently to this Authority in computer readable form.
- ☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- ☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. ☒ The amendments have resulted in the cancellation of:

- ☐ the description, pages _____
- ☒ the claims, Nos. 5
- ☐ the drawings, sheets _____

5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).**

* Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this opinion as "originally filed." and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17).

** Any replacement sheet containing such amendments must be referred to under item I and annexed to this report.

INTERNATIONAL PRELIMINARY EXAMINATION

International application No.

PCT/KR2003/002609

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Claims	1-12	YES
	Claims	None	NO
Inventive step (IS)	Claims	1-12	YES
	Claims	None	NO
Industrial applicability (IA)	Claims	1-12	YES
	Claims	None	NO

2. Citations and explanations (Rule 70.7)

1. Reference is made to the following documents:

D1 : WO 96-37113 A
D2 : KR 1998-00073 A
D3 : JP 05-84065 A
D4 : KR 1982-00919 B1

2. Novelty and Inventive step

The subject-matter of claim 1 relates to the lactic fermenting products of ginseng which is prepared by the fermentation of ginseng with lactic acid bacteria capable of bio-converting ingredients of ginsenosides.

Documents D1-D4 cited in the International Search Report disclose the lactic fermenting products of ginseng such as fermented ginseng juice or yoghurt.

However, none of the prior art documents D1-D4 use lactic acid bacteria capable of bio-converting ingredients of ginsenosides, and the final products of the prior arts differ from that of the present invention.

The products of claim 1 in the present invention obtain saponins such as compound K, ginsenoside Rh1 and Rh2 which improve anti-cancer activities, anti-allergic effects and reinforcement of immune activity in human bodies.

Therefore, the subject matter of claim 1 is considered to be novel and to involve an inventive step under PCT Article 33(2)-33(3).

Claims 2-12, which are dependent on claim 1, also meet the requirements of PCT Article 33(2)-33(3) with respect to novelty and inventive step.

3. Industrial Applicability

The subject matter of claims 1-12 is considered to be industrially applicable under PCT Article 33(4).

WHAT IS CLAIMED IS:

1. Lactic fermenting products of ginseng prepared by the fermentation of ginseng with lactic acid bacteria.

5 2. Lactic fermenting products of ginseng as claimed in claim 1 wherein said ginseng is selected from the group consisting of dry ginseng powder, ginseng treated by acid, ginseng treated at high temperature and ginseng treated under pressure.

10 3. Lactic fermenting products of ginseng as claimed in claim 1 or claim 2 wherein said lactic fermenting products of ginseng comprises at least one ingredient selected from the group consisting of Compound K(20-O- β -D-glucopyranocyl-20(S)-protopanaxadiol), ginsenoside Rh1 and ginsenoside Rh2, and Δ^{20} -ginsenoside Rh2.

15 4. Lactic fermenting products of ginseng as claimed in claim 3 wherein the total amount of (Compound K+ginsenoside Rh1), (ginsenoside Rh1+ginsenoside Rh2), (ginsenoside Rh2+ Δ^{20} -ginsenoside Rh2+ginsenoside Rh1) or (Compound K+ginsenoside Rh1+ginsenoside Rh2) is respectively in the ratio of more than 0.1 with respect to the amount of (ginsenoside Rc+ginsenoside Rd+ginsenoside Rb1+ginsenoside Rb2+ginsenoside Re+ginsenoside Rg1).

20 5. Lactic fermenting products of ginseng as claimed in claim 1 or claim 2 wherein lactic acid bacterium enables to bio-convert ingredients of ginsenoside.

25 6. Lactic fermenting products of ginseng as claimed in claim 5 wherein said lactic acid bacteria may be at least one selected from the group of bifidobacterium K-103, bifidobacterium K-506, bifidobacterium collerium KK-1, bifidobacterium minimum KK-2, bifidobacterium H-1 and bifidobacterium KK-11.

30 7. A ginseng yoghurt comprising lactic fermenting products of ginseng as claimed in claim 1 or claim 2.

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ART 34 AMDT

8. The ginseng yoghurt as claimed in claim 7 wherein lactic fermenting products of ginseng are incorporated into said ginseng yoghurt through the fermentation process wherein both milk and ginseng are fermented together.

5 9. The ginseng yoghurt as claimed in claim 8 wherein said lactic acid bacteria may be at least one selected from the group of bifidobacterium K-103, bifidobacterium K-506, bifidobacterium cholerium KK-1, bifidobacterium minimum KK-2, bifidobacterium H-1 and bifidobacterium KK-11

10 10. The ginseng yoghurt as claimed in claim 7 wherein said lactic acid bacteria can suppress the intestinal harmful bacillus and/or suppress the activity of the intestinal harmful enzyme and/or to suppress the proliferation of cancer cells.

11. Bifadobacterium KK-1(KCCM-10364).

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12. Bifadobacterium KK-2(KCCM-10365).

13. Bifadobacterium H-1(KCCM-10493).

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